

Table S1. Comparison of measured variables with different quartiles of uric acid derived from each group among all patients, male and female patients

| | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 | <i>p</i> -Value |
|------------------------------------|------------|------------|------------|------------|-----------------|
| All patients (<i>n</i> = 3370) | | | | | |
| Uric acid (mg/dL) | <4.1 | 4.1-5.1 | 5.2-6.2 | >6.2 | |
| Number of patients | 889 | 847 | 811 | 823 | |
| Age (years) | 71.0±13.6 | 70.3±13.5 | 70.4±13.3 | 70.8±14.1 | 0.619 |
| Female gender | 510 (57) | 386 (46) | 280 (35) | 269 (33) | <0.001 |
| NIHSS score on admission | 7.5±7.2 | 6.4±6.9 | 6.3±6.6 | 7.5±7.9 | <0.001 |
| mRS score >2 at discharge | 510 (57) | 386 (46) | 280 (45) | 403 (49) | <0.001 |
| Death at discharge | 40 (4.5) | 26 (3.1) | 19 (2.3) | 48 (5.8) | 0.001 |
| Male patients (<i>n</i> = 1925) | | | | | |
| Uric acid (mg/dL) | <4.4 | 4.4-5.4 | 5.5-6.5 | >6.5 | |
| Number of patients | 453 | 585 | 435 | 452 | |
| Age (years) | 69.1±13.5 | 68.1±13.1 | 67.6±13.6 | 67.6±13.9 | 0.293 |
| NIHSS score on admission | 6.0±6.1 | 5.8±6.1 | 5.6±6.2 | 6.9±7.5 | 0.009 |
| mRS score >2 at discharge | 219 (48) | 247 (42) | 157 (36) | 195 (43) | 0.003 |
| Death at discharge | 25 (5.5) | 15 (2.6) | 7 (1.6) | 21 (4.6) | 0.003 |
| Female patients (<i>n</i> = 1445) | | | | | |
| Uric acid (mg/dL) | <3.8 | 3.8-4.6 | 4.7-5.9 | >5.9 | |
| Number of patients | 356 | 347 | 399 | 343 | |
| Age (years) | 72.3±13.5 | 73.5±13.1 | 73.3±12.9 | 77.3±11.9 | <0.001 |
| NIHSS score on admission | 8.8±8.0 | 7.8±7.6 | 7.3±7.3 | 8.9±8.4 | 0.004 |
| mRS score >2 at discharge | 218 (61) | 190 (55) | 214 (54) | 218 (64) | 0.015 |
| Death at discharge | 9 (2.5) | 16 (4.6) | 15 (3.8) | 25 (7.3) | 0.020 |

data are expressed as mean ± standard deviation or n (%); mRS, modified Rankin Scale; NIHSS, National Institutes of Health Stroke Scale

Table S2. Multivariable analysis of factors influencing unfavorable outcomes (modified Rankin Scale score > 2) in 3370 patients with acute ischemic stroke including quartile distribution of uric acid derived from each group.

| Characteristics | All patients (<i>n</i> = 3370) | | Male patients (<i>n</i> = 1925) | | Female patients (<i>n</i> = 1445) | |
|--------------------------------------|---------------------------------|----------------------------|----------------------------------|----------------------------|------------------------------------|----------------------------|
| | OR (95% CI) | Model I <i>p</i> -Value | OR (95% CI) | Model I <i>p</i> -Value | OR (95% CI) | Model I <i>p</i> -Value |
| Age | 1.051 (1.042-1.061) | <0.001 | 1.045 (1.033-1.057) | <0.001 | 1.054 (1.040-1.069) | <0.001 |
| Admission NIHSS score | 1.422 (1.377-1.467) | <0.001 | 1.434 (1.377-1.493) | <0.001 | 1.409 (1.342-1.479) | <0.001 |
| Female gender | 1.200 (0.955-1.508) | 0.110 | - | - | - | - |
| Hemoglobin | 0.952(0.899-1.008) | 0.147 | 0.923 (0.859-0.993) | 0.031 | 0.991 (0.997-1.001) | 0.850 |
| Platelet | 0.999 (0.998-1.001) | 0.424 | 1.000 (0.998-1.002) | 0.777 | 0.999 (0.997-1.001) | 0.445 |
| White blood cells | 1.058 (1.016-1.102) | 0.005 | - | - | 1.130 (1.059-1.206) | <0.001 |
| Glucose | 1.002 (1.001-1.004) | 0.012 | - | - | 1.003 (1.000-1.005) | 0.043 |
| Creatinine | 0.978 (0.862-1.110) | 0.929 | 0.891 (0.763-1.040) | 0.143 | 1.072 (0.926-1.241) | 0.352 |
| Cholesterol | 1.003 (1.001-1.006) | 0.014 | 1.004 (1.001-1.008) | 0.018 | 1.003 (0.999-1.007) | 0.132 |
| Triglyceride | 1.000 (0.999-1.001) | 0.509 | 1.001 (0.999-1.002) | 0.361 | 0.999 (0.997-1.002) | 0.647 |
| Hypertension | 1.024 (0.825-1.270) | 0.657 | - | - | 1.131 (0.799-1.601) | 0.487 |
| Diabetes mellitus | 1.147 (0.904-1.455) | 0.309 | 1.397 (1.081-1.805) | 0.011 | 1.026 (0.697-1.511) | 0.896 |
| Dyslipidemia | 0.837 (0.653-1.072) | 0.218 | 0.949 (0.689-1.306) | 0.747 | 0.778 (0.531-1.139) | 0.196 |
| Heart disease | 0.888 (0.711-1.110) | 0.428 | 0.985(0.744-1.304) | 0.916 | 0.848 (0.595-1.207) | 0.359 |
| Prior stroke | 1.574 (1.254-1.977) | <0.001 | 1.695 (1.285-2.235) | <0.001 | 1.506 (1.033-2.196) | 0.033 |
| Current smoker | 1.023 (0.787-1.328) | 0.838 | 1.054 (0.813-1.366) | 0.691 | 0.625 (0.290-1.344) | 0.213 |
| Alcohol consumption | 0.926 (0.618-1.388) | 0.688 | - | - | - | - |
| History of cancer | 1.655 (1.139-2.405) | 0.011 | - | - | 1.920 (1.102-3.346) | 0.021 |
| Uremia | 1.492 (0.557-3.994) | 0.670 | 2.659 (0.767-9.219) | 0.123 | - | - |
| Quartile 1 of uric acid ^a | 1.359 (1.068-1.730) | 0.013 | 1.413 (1.053-1.895) | 0.021 | 1.217 (0.832-1.781) | 0.312 |
| Quartile 4 of uric acid ^a | 0.972 (0.766-1.233) | 0.815 | 0.980 (0.718-1.339) | 0.901 | 1.001 (0.684-1.466) | 0.994 |

Model I: including uric acid quartiles 1 to 4, range of Quartiles 1 and 4 for all patients: <4.1 mg/dL and >6.2 mg/dL, for male patients: <4.4 mg/dL and >6.5 mg/dL, for female patients: <3.8 mg/dL and >5.9 mg/dL, respectively; ^aUsing Quartiles 2 and 3 of uric acid as reference percentiles; CI, confidence interval; NIHSS, National Institutes of Health Stroke Scale; OR, odds ratio

Table S3. Multivariable analysis of factors influencing death in 3370 patients with acute ischemic stroke including quartile distribution of uric acid derived from each group.

| Characteristics | All patients (<i>n</i> = 3370) | | Male patients (<i>n</i> = 1925) | | Female patients (<i>n</i> = 1445) | |
|--------------------------------------|---------------------------------|----------------------------|----------------------------------|----------------------------|------------------------------------|----------------------------|
| | OR (95% CI) | Model I <i>p</i> -Value | OR (95% CI) | Model I <i>p</i> -Value | OR (95% CI) | Model I <i>p</i> -Value |
| Age | 1.019 (1.001-1.036) | 0.025 | 1.023 (1.000-1.046) | 0.047 | 1.025 (0.996-1.054) | 0.091 |
| Admission NIHSS score | 1.134 (1.111-1.157) | <0.001 | 1.165 (1.130-1.201) | <0.001 | 1.127 (1.093-1.162) | <0.001 |
| Hemoglobin | 0.952 (0.862-1.053) | 0.360 | 0.887 (0.772-1.020) | 0.092 | - | - |
| Platelet | - | - | 1.001 (0.998-1.004) | 0.532 | - | - |
| White blood cells | 1.110 (1.049-1.176) | <0.001 | 1.136 (1.040-1.241) | 0.005 | 1.088 (1.005-1.178) | 0.038 |
| Glucose | 1.002 (1.000-1.004) | 0.078 | - | - | 1.001 (0.998-1.004) | 0.459 |
| Creatinine | 1.064 (0.883-1.283) | 0.472 | - | - | 1.208 (1.028-1.420) | 0.022 |
| Triglyceride | - | - | 1.001 (0.997-1.004) | 0.751 | - | - |
| Diabetes mellitus | - | - | - | - | 1.525 (0.821-2.832) | 0.182 |
| Heart disease | 1.844 (1.205-2.820) | 0.004 | 1.290 (0.700-2.377) | 0.415 | 2.356 (1.234-4.499) | 0.009 |
| History of cancer | 2.100 (1.114-3.958) | 0.033 | - | - | 2.120 (0.923-4.872) | 0.077 |
| Uremia | 1.410 (0.376-5.295) | 0.669 | - | - | - | - |
| Quartile 1 of uric acid ^a | 1.474 (0.895-2.427) | 0.127 | 3.198 (1.595-6.411) | 0.001 | 0.490 (0.217-1.109) | 0.087 |
| Quartile 4 of uric acid ^a | 1.498 (0.942-2.381) | 0.088 | 1.610 (0.776-3.337) | 0.201 | 1.128 (0.604-2.110) | 0.705 |

Model I: including uric acid quartiles 1 to 4; range of Quartiles 1 and 4 for all patients: <4.1 mg/dL and >6.2 mg/dL, for male patients: <4.4 mg/dL and >6.5 mg/dL, for female patients: <3.8 mg/dL and >5.9 mg/dL, respectively; ^aUsing Quartiles 2 and 3 of uric acid as reference percentiles; CI, confidence interval; NIHSS, National Institutes of Health Stroke Scale; OR, odds ratio